

CLAIMS

1. Compositions for preservative treatment of animal rawhides, characterized in that such compositions contain at least one mixture of:

- at least one superabsorbent (co)polymer capable of absorbing the internal moisture of the rawhide when deposited on the surface of the hide, while allowing the internal moisture necessary for good preservation of the hide to remain, and of

- at least one other hydrophilic agent,

- optionally bactericides, preservative agents, and the like.

2. Compositions for preservative treatment of animal rawhides as specified in Claim 1, wherein the superabsorbent polymers used are ones capable of absorbing the internal moisture of the rawhide when such polymers are deposited on the surface of the hide, while the internal moisture necessary for good preservation of the hide is allowed to remain.

3. Compositions for preservative treatment of animal rawhides as specified in claim 1 or 2, wherein the superabsorbent polymers used are ones capable of absorbing the internal moisture of the rawhide when they are deposited on the surface of the hide, while allowing a residual moisture ranging from 20 to 70% by weight, preferably of the order of 50%, to remain in the hide.

4. Compositions for preservative treatment of animal rawhides as specified in any of claims 1 to 3, wherein the monomers used to form appropriate superabsorbent polymers are selected from among the following

(1) Monomers containing carboxyl groups: mono or polycarboxylic acids with monoethylene unsaturation, such as (meth)acrylic acid (that is, acrylic acid or methacrylic acid), maleic acid, and fumaric acid.

(2) Monomers containing groups of the carboxylic acid anhydride type: polycarboxylic acid anhydrides with monoethylene unsaturation (such as maleic anhydride).

(3) Monomers containing carboxylic acid salts: water-soluble salts (alkaline metal salts, ammonium salts, amine salts, etc.) of mono or polycarboxylic acids with monoethylene unsaturation (such as sodium (meth)acrylate, trimethylamine (meth)acrylate, triethanolamine (meth)acrylate, sodium maleate, methylamine maleate).

(4) Monomers containing sulfonic acid groups: aliphatic or aromatic vinylsulfonic acids (such as vinylsulfonic acid, allylsulfonic acid, vinyltoluenesulfonic acid, styrene sulfonic acid), (meth)acrylic sulfonic acids (such as sulfopropyl (meth)acrylate, propyl 2-hydroxy-3-(meth)acryloxy sulfonic acid).

(5) Monomers containing sulfonic acid groups: alkaline metal salts, ammonium salts, amino salts of monomers containing sulfonic acid groups as indicated above.

(6) Monomers containing hydroxyl groups: alcohols with monoethylene unsaturation (such as (meth)allyl alcohol, ethers or esters of polyols with monoethylene unsaturation (alkylene glycols, glycerol, polyoxyalkylene polyols) such as hydroxyethyl (meth)acrylate, hydroxypropyl (meth)acrylate, triethylene glycol (meth)acrylate, mono (meth)allyl ether of poly(oxyethylene) oxypropylene (in which the hydroxyl groups may be etherified or esterified).

(7) Monomers containing amide groups: (meth)acrylamide, N-alkyl (meth)acrylamides (such as N-methylacrylamide, N-hexylacrylamide), N, N-dialkyl (meth)acrylamides (such as N, N-dimethylacrylamide, N, N-di-n-propylacrylamide), N-hydroxyalkyl(meth)acrylamides (such as N-methyl(meth)acrylamide, N-hydroxyethyl(meth)acrylamide, N, N-dihydroxyalkyl(meth)acrylamides (such as N, N-dihydroxyethyl(meth)acrylamide), vinyl lactames (such as N-vinylpyrrolidone).

(8) Monomers containing amino groups: esters containing amino groups (for example, esters of morpho-linoalkyl, etc.) of mono or di-carboxylic acid with monoethylene unsaturation (such as dimethylaminoethyl (meth)acrylate, diethylaminoethyl (meth)acrylate, morpholinoethyl (meth)acrylate, dimethyl aminoethyl fumarate, heterocyclic vinyl compounds (such as vinyl pyridines (for example, 2-vinyl pyridine, 4-vinyl pyridine), N-vinyl pyridine), N-vinyl imidazole.

(9) Monomers containing groups of quaternary ammonium salts: salts of N, N, N-trialkyl-N-(meth)acryloyloxyalkylammonium (such as N, N, N-trimethyl-N-(meth)acryloyloxyethylammonium chloride, triethyl-N-(meth)acryloyloxyethylammonium chloride, trimethyl ammonium 2-hydroxy-3-(meth)-acryloyl-oxypropyl).

5. Compositions for preservative treatment of animal rawhides as specified in any of claims 1 to 4, wherein the monomers used to form appropriate superabsorbent polymers are selected from among the following:

- acrylamide, acrylic acid, methacrylic acid, sulfomethylated or chloromethylated dimethylaminoethyl acrylate,
- chloromethylated or sulfomethylated dimethylaminoethyl-methacrylate.

6. Compositions for preservative treatment of animal rawhides as specified in any of claims 1 to 5, wherein the superabsorbent polymers are selected from among the following:

- reticulated polyacrylamides
- reticulated polyacrylates
- reticulated acrylamide/acrylate copolymers
- sulfomethylated or chloromethylated acrylamide/dimethylaminoethylacrylate (ADAME) copolymers
- sulfomethylated or chloromethylated acrylamide/dimethylaminoethylmethacrylate (MADAME) copolymers.
- reticulated polymers of acrylic acid or methacrylic acid, inoculated and reticulated copolymers of the polysaccharide/acrylic or methacrylic acid type, ternary reticulated acrylic or methacrylic acid/sulfonated acrylamide copolymers and their alkaline metal or alkaline earth salts, for example, reticulation products of an acrylic acid homopolymer or of a salt of this acid, acrylic acid (or acrylic acid salt)/methacrylic acid (or methacrylic acid salt), and inoculated starch/acrylic acid (or acrylic acid salt) copolymers;
- hydrolyzates of reticulated inoculated polysaccharide/acrylate or alkyl methacrylate copolymers, hydrolyzates of reticulated inoculated polysaccharide/acrylonitrile copolymers,
- hydrolyzates of reticulate polysaccharide/acrylamide copolymers, for example, products of reticulation of inoculated hydrolyzed starch/ethyl acrylate copolymers, hydrolyzed inoculated starch/methyl methacrylate copolymers, hydrolyzed inoculated

starch/acrylonitrile copolymers, and hydrolyzed inoculated starch/acrylamide copolymers;

- hydrolyzates of reticulated alkyl/vinyl acetate acrylate or methacrylate copolymers, for example, products of reticulation of hydrolyzed ethyl methacrylate/vinyl acetate copolymers and of hydrolyzed methyl acrylate/vinyl acetate copolymers;

- hydrolyzates of reticulated inoculated starch/acrylonitrile/acrylamide/2-methylpropane sulfonic acid copolymers;

- hydrolyzates of reticulated inoculated starch/acrylonitrile/vinylsulfonic acid copolymers; of reticulated sodium carboxymethylcellulose and analogous products and mixtures of such products, preferably:

- reticulated polymers of acrylic or methacrylic acid; reticulated inoculated polysaccharide/acrylic or methacrylic acid copolymers, ternary reticulated acrylic or methacrylic acid/acrylamide/sulfonated acrylamide copolymers.

7. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 6, wherein such compositions comprise mixtures of superabsorbents such as are described or obtained in claims 1 to 6.

8. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 7, wherein such compositions comprise mixtures of superabsorbents such as are described in claims 1 to 6, of different grain sizes adapted to obtain optimal coverage of the surface of the hide.

9. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 8, wherein such

compositions comprise mixtures of superabsorbents such as are described in claims 1 to 6, of different chemical composition.

10. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 9, wherein such compositions comprise mixtures of superabsorbents such as are described in claims 1 to 6, of different grain size and chemical composition.

11. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 10, wherein such compositions comprise mixtures of superabsorbents such as are described in claims 1 to 10 and at least one hydrophilic or hygroscopic agent.

12. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 11, wherein such compositions include the salt NaCl as hygroscopic agent.

13. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 12, wherein such compositions include

- CaCl_2 , MgCl_2 , KCl

as hygroscopic agent.

14. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 13, wherein the ratios of the superabsorbent polymer and the other hygroscopic agent or agents range from 80 to 20% by weight.

15. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 14, wherein the ratios of

the superabsorbent polymer to the other hygroscopic agent or agents range from 65 to 35% by weight.

16. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 14, wherein the ratios of the superabsorbent polymer to the other hygroscopic agent or agents range around 50/50% by weight.

17. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 16, wherein the superabsorbent polymers have a grain size smaller than approximately 6 mm and preferably ranging from 0.3 to 4 mm.

18. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 17, wherein the superabsorbent polymers have a particle size ranging from 0.5 to 3 mm.

19. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 18, wherein the superabsorbent polymers have a grain size around 0.3 to 1 mm.

20. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 19, wherein the superabsorbent polymers have a fine grain size combined with a coarser grain size.

21. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 20, wherein such compositions contain various additives such as bactericides, antiseptics, preservation agents, and the like.

22. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 21, wherein such compositions contain at least one bactericide.

23. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 22, wherein such compositions contain at least one additive and/or one bactericide selected from among the following and mixtures thereof:

- Phenotip (TM)

- Actacid L.A. (TM°C)

24. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 23, wherein such compositions contain the following superabsorbents and hygroscopic agent:

NaCl

+

SAP 1

(reticulated

polyacrylate;

grain size 0.5-3 mm) or

SAP 2

(Reticulated polyacrylate; grain size 100-800 microns) or

SAP 1 + SAP 2

(Reticulated polyacrylate + reticulate
acrylamide/acrylate copolymer, grain size 0.1 to 3 mm) or

SAP 3

(Chloroethylated, reticulated MADAME acrylamide
copolymer, grain size 0.5-3 mm) or

SAP 4

(Chloromethylated, reticulated ADAME acrylamide
copolymer, grain size 0.5-3mm)

25. Compositions for preservative treatment of raw animal hides as specified in any of claims 1 to 24, wherein such compositions contain the following agents:

SAP Aquasorb 3005 KL (TM) reticulated acrylamide/acrylate

200 g/kg hide

200 g/kg hide

NaCl

26. A process for preservative treatment of raw animal hides, characterized in that such process comprises at least one stage of contact of a hide with a preservative composition as specified in any of claims 1 to 25.

27. A process for preservative treatment of raw animal hides, wherein such process comprises at least one stage of contact of a hide, on the surface opposite the hair, with a preservative composition as specified in any of claims 1 to 25.

28. A process for preservative treatment of raw animal hides as specified in claim 26 or 27, wherein such contact is continued for a period of around 24 h.

29. Animal hides, characterized in that such hides have been treated for preservation with a composition as specified in any of claims 1 to 25.

30. Animal hides, characterized in that such hides have been treated for preservation by a process as specified in any of claims 26 to 28.

31. Utilization of superabsorbent polymer(s) SAP for preservation of animal hides.

32. Utilization of superabsorbent polymer(s) SAP and one or more hygroscopic agent(s) for preservation of animal hides.